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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,239	02/10/2006	Dieter Hermeling	29827/41758	6113
4743 7590 01/30/2008 MARSHALL, GERSTEIN & BORUN LLP 233 S. WACKER DRIVE, SUITE 6300 SEARS TOWER CHICAGO, IL 60606			EXAMINER MATOCHIK, THOMAS L	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 01/30/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,239	Applicant(s) HERMELING ET AL.	
	Examiner Thomas Matochik	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/1/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

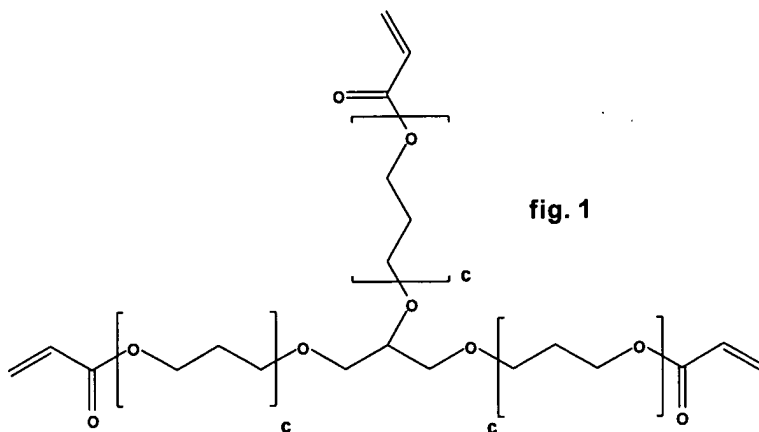
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-7, 10-11 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodrigues (US 5,335,726) in view of Hoy et.al (US4,581,470).

Regarding claims 1-4 and 10-11: Rodrigues teaches acrylic esters of alkoxyated polyols having the formula shown in fig. 1 (col. 3, formula 2, where G is structure 3, R² is H, B is propoxy, F is a carbonyl and A is ethylene):



Although Rodrigues teaches subscript c, its value is missing in the disclosure.

However, typically in the art of making acrylic esters of polyols the alkoxy series have values of c greater than 1 and at least 1 to 3. Therefore for purposes of examination, in the structure shown in fig. 1, c = 1 to 3.

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Rodrigues does not teach acrylic esters of a monoalkoxylated polyol. However, Hoy teaches making a novel glycerol-polyol using an acetone blocking group to form solketal (col. 6, line 20, structure (A)). The solketal is then extended by reacting the unprotected hydroxy group with propylene oxide (col. 21, lines 56-68, Example 1). The protective isopropylidene is then removed by hydrolysis yielding a propylene oxide extended polyol with a molecular weight of 2546 (col. 22, lines 1-3). Hoy further teaches that these polyols can be reacted with ethylenically unsaturated monomers to form polymer/polyols (col. 11, lines 61-68 and col. 12, lines 1-4). Rodrigues and Hoy are analogous art namely, polyol/polyester chemistry. At the time the invention was made, it would have been obvious to a person skilled in the art to combine the teachings of Hoy regarding protected polyol synthesis with the chemistry of Rodrigues to provide novel acrylic esters of monoalkoxylated polyols used as crosslinkers that can be used to modify the rigidity of polymeric hydrogels.

Regarding claims 6-7 and 14-16: Rodrigues teaches the basic acrylic ester monoalkoxylated polyols as set forth in claim 1 above. Rodrigues teaches the production of a gel comprised of the methacrylic esters of monoalkoxylated polyols as the internal crosslinker (col. 10, Example II, lines 55-64 and Table II).

Rodrigues also teaches a process for preparing the gel using the monoalkoxylated polyol, an aqueous mixture of a hydrophilic monomer (col. 6, lines 59-68) and a free radical initiator (col. 7, lines 40-60).

Claims 5, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoy et.al (US4,581,470) in view of Haüssling et.al (US 5,821,383).

Regarding claim 5: Hoy teaches a process for making a novel glycerol-polyol using an acetone blocking group to form solketal (col. 6, line 20, structure (A)). The solketal is then extended by reacting the unprotected hydroxy group with propylene oxide (col. 21, lines 56-68, Example 1). The protective isopropylidene is then removed by hydrolysis yielding a propylene oxide extended polyol with a molecular weight of 2546 (col. 22, lines 1-3).

Hoy does not teach a process for preparing (meth)acrylic esters of the polyols described above. However, Haüssling teaches a process for preparing acrylic esters of polyols (col. 1, lines 36-41). Haüssling also teaches that the process involves reacting acrylic acid and the polyol in the presence of an esterification catalyst (col. 2, lines 23-27) and a polymerization inhibitor (col. 2, lines 28-30).

Hoy and Haüssling are analogous art namely, polyol/polyester/polyurethane chemistry. At the time the invention was made, it would have been obvious to a person skilled in the art to combine the teachings of Hoy regarding the preparation of novel monoalkoxylated polyols with the process of Haüssling regarding the synthesis of acrylic acid polyol esters to provide novel acrylic esters of monoalkoxylated polyols used as crosslinkers that can be used to modify the rigidity of polymeric hydrogels.

Regarding claims 12 and 13: Hoy teaches that hydrolysis of the protected, alkoxylated polyol occurs as a separate reaction and isolation step prior to further processing (col. 20, lines 43-58). Hoy does not teach the hydrolysis and esterification

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performed in the same reactor. However, a person with ordinary skill in the art would recognize that the reactions could be performed in either a single or two individual reactors.

Claims 9 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodrigues (US 5,335,726) in view of Hoy et.al (US4,581,470) as applied to claims 1, 6 and 14-16 above and further in view of Gartner et.al (WO 93/21237)

Regarding claims 9 and 17-19: Rodrigues teaches the hydrogel polymers crosslinked with acrylic ester monoalkoxylated polyols as set forth in claims 1, 6 and 14-16 above.

Rodrigues does not teach hygiene articles made from these hydrogel polymers crosslinked with acrylic ester monoalkoxylated polyols. Gartner, however, teaches hydrophilic resins or superabsorbent polymers (page 4, lines 28-32) crosslinked by acrylic acid esters of polyhydric hydrocarbons such as glycerol (page 5, lines 8-9 and 18-25). Further he teaches the crosslinked polymers attached to a support structure as an absorbent item such as diapers and sanitary napkins (page 13, lines 31-38 and page 14, lines 1-9).

Rodrigues and Gartner are analogous art namely, polyol/polyester chemistry. At the time the invention was made, it would have been obvious to a person skilled in the art to combine the teachings of Gartner regarding making hygiene articles with the crosslinked gels of Rodrigues to provide an article with varying rigidity for achieving a comfortable fit of the article and improved absorbent properties.

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Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Matochik whose telephone number is 571-270-3291. The examiner can normally be reached on Monday-Friday 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TLM 1/10/2008


MARK EASHOO, PH.D.
SUPERVISORY PATENT EXAMINER

28/3-108